State of Wisconsin
CORRESPONDENCE/MEMORANDUM Department of Commerce

DATE: July 29 2003

SUBJECT: Strahman Valves Cross Connection Control Draft.

Strahman currently makes three types of valves for hose stations.

1. Instant hot water from steam and cold water (M – 5000 / M- 5700 Series).
2. Blended hot and cold water (M – 159 / M – 750 Series)
3. Hot or Cold Water (M – 156 N / M – 756 / :M – 358 Series).

1. STEAM AND COLD WATER UNITS (M – 5000 / M – 5700 Series)

a. Required steam pressure…L Model; 80 –95 lbs, M Model; 96 – 130 lbs, H Model; 131 – 151 lbs.
b. Required water pressure… All Models; 50 – 80 lbs. , with auto steam shut off when cold pressures drop below 50 lbs. for any reason.

Cross Connection Control

(1.) **Steam Boiler**: Reduced Pressure Principle Backflow Preventer (RP) ASSE # 1013 (CSA B64.4) on the boiler feed water distribution branch to handle backpressure requirements.

a. Multiple Strahman valves hose stations would require only one RP at the boiler connection.

- Steam piping downstream of the boiler is self cleaning.
- Steam cannot backflow from one unit to another, once released to atmosphere.
- RP's are designed for up to 140 degrees F. continuous, HW rp's up to 210 degrees F.
- Cross flow checks are integral to each valve
- Boiler and steam fitting piping to be inspected by Boiler inspectors (Comm 5.60), when required.

(2.) **Cold side of valve**:

RP ASSE # 1013 (CSA B64.4) installed upstream of the Strahman valve.

- Multiple Strahman valve installations can be served by dedicated water distribution piping downstream of a single RP. The dedicated cold water distribution piping shall be determined to be non-potable *modified* piping, *modification type* shall be *"floor wash up water piping"* on multiple valve installations. The Hose stations and *modified* piping shall be labeled and tagged as *"floor wash up water"* per Comm 82.40(3)(d). The intent of this piping system is to provide hose stations with adequate water and steam for cleaning purposes only.
- Single (individual) Strahman valve cold water piping downstream of the RP valve is determined to be a potable water installation when boiler cleaning chemicals are not introduced into the steam side of the valve. (meeting the ccc isolation requirement established since 3-1-94, and Comm. 82.41(3)(c)3.). This would be required to be labeled as *"pressure hose station water"*piping.

- Excessive steam pressures are directly connected with the cold water line at the Strahman valve.
- Cold water automatically shuts off if pressures drop below 50 p.s.i., however this manufacturer's safety device can be removed and the Strahman valve will operate at pressures less than 50 p.s.i. (creating the possible discharge of steam at the hose outlet).
- With the addition of a RP on the cold water piping, required working pressures with 7 – 10 gpm pressure hoses and spray head (some hoses have 16 gpm demand) will demand water pressures before the RP of 65 – 80 psi or more depending upon the system design.
- Recommend pressure gauges on the cold water distribution. piping immediately upstream of the Strahman valve.

Booster Pump Installation (If required to meet high pressure demand)

- To meet excessive pressure demands on the cold supply to the cold side of the Strahman valve, a booster pump can be installed.

2. HOT AND COLD WATER MIXING UNITS (M –159, M – 750 Stainless Steel Series)

a. Max. working pressure; 150 psi., no minimum working pressure.
b. Max. operating temperature; 200 degrees F.
c. Integral check valves to prevent cross flow

Cross Connection Control

- SVB ASSE 1056 Pressure Vacuum Breakers upstream of the Strahman valve (hot & cold)when design operating temperatures do not exceed 180 degrees F.
- SVB downstream of the Strahman valve, same temp. requirements as above.
- RP upstream of the Strahman valve (hot & cold) when design operating temperatures <u>do exceed</u> 180 degrees F working temperature.

3.HOT OR COLD WATER MIXING STATIONS

a. Max. operating temp. 200 degrees F.
b. Max working pressure: 150 psi

Suggested Cross Connection Control

- SVB Pressure Vacuum Breaker upstream (hot and cold water dis. piping) or downstream of Strahman valve
- Design operating temperatures must not exceed 180 degrees F.
- Recommend installing temperature gauge in hot water hose stations
- RP upstream of the hose station valve if design temperatures <u>do exceed</u> 180 degrees working temperature.